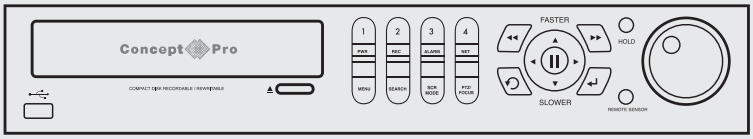
MPEG4

4 Channel Digital Recording System

Concept Pro

VXM4-4



User Manual

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BEFORE INSTALLING

- Installation should be carried out only by qualified personnel and in accordance with any electrical regulations in force at the time.
- The DVR must be placed on a stable surface or mounted in an approved cabinet. Adequate ventilation must be provided, taking particular care not to block any of the air vents on the DVR.
- Adequate protection against lightning strikes and power surges must be installed to prevent damage to the DVR.
- Any safety warnings on the DVR and in these instructions must be adhered to.
- If cleaning is necessary, shutdown the DVR and disconnect power first. Use a soft dry cloth only – never use any abrasive cleaners.
- Do not attempt to service or repair the DVR as opening or removing covers may expose dangerous voltages or other hazards. Refer all servicing to qualified service personnel

KEY FEATURES

ENHANCED GRAPHICAL USER INTERFACE (GUI)
The VXM4 menu structure and on screen display is presented in a simple to use and logical GUI format.

GENUINE TRIPLEX OPERATION
The VXM4 will continue to record at full frame rate during local playback, local setup, multi user remote viewing and playback, and remote setup.

AUDIO
4 audio inputs are supported which can be assigned to any video channel. Live and recorded audio can be monitored remotely over the internet and remote 'talkback' audio transmission to the VXM4 is also possible.

BACKUP
Recorded footage (including audio) can be archived to USB memory stick or CD. Playback software is embedded with the backup files and the backup also contains the system event log and backup log for full traceability.

REMOTE CONNECTION
Software is provided to allow remote connection to up to 4 VXM4s in one session. Depending on user level, full VXM4 control is available over the internet as well as the ability to remotely configure the VXM4. Alarm outputs on the VXM4 can be remotely triggered over the internet.

COMPREHENSIVE RECORDING SETUP
Recording can be scheduled, alarm activated or motion activated. For each type of recording, frame rates, image quality and audio recording properties can be adjusted per hour, per day and for each individual channel.

TELEMETRY CONTROL
Full telemetry control is available from the front panel or remote connection and a wide number of speed dome protocols are supported. Protocols can be set individually for each channel and telemetry speed can be adjusted to suit particular speed domes.

EXTENSIVE MONITOR SUPPORT
The VXM4 has 3 main monitor outputs (Composite, VGA and S-Video) which can be used simultaneously. Support is also provided for a spot monitor.

LIVE DISPLAY
The VXM4 displays single or quad screen images and also has a standard sequence mode.

CONFIGURATION BACKUP
All configuration settings on the VXM4 can be saved to USB memory stick or a PC file remotely. The saved data can then be uploaded to other VXM4 units allowing rapid deployment where more than one VXM4 is being installed.

EMAIL SUPPORT
The VXM4 can send emails to specific users to notify events such as alarm, motion detection, hard drive failure etc.

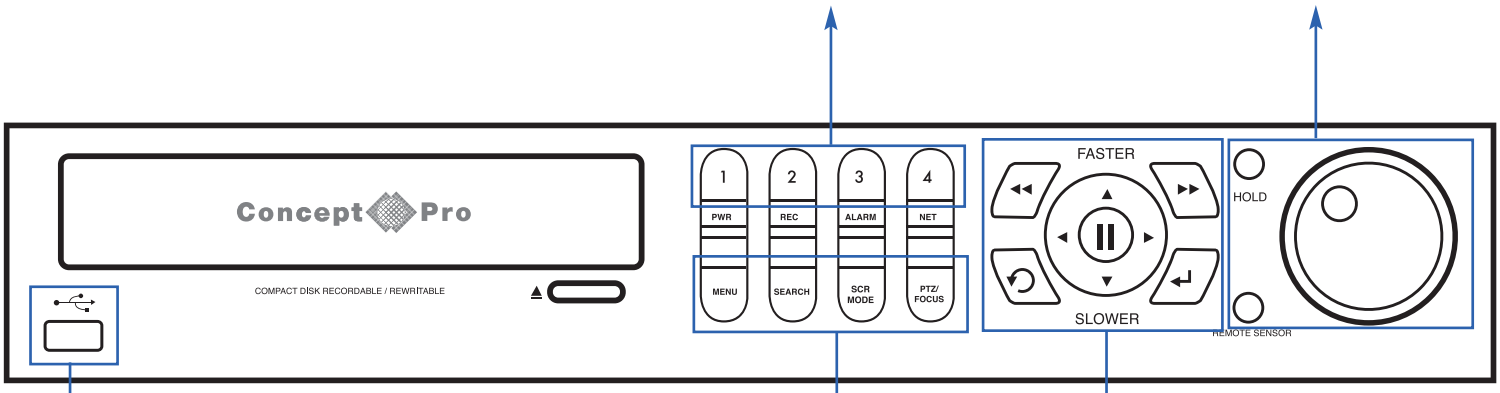
FRONT PANEL DESCRIPTION

SHUTTLE WHEEL
Used to quickly adjust playback speed and direction (page 7). Also used to control camera zoom when in PTZ mode (page 11)

JOG RING
When playback is paused, used to move footage forwards or backwards, frame by frame (page 7)

HOLD
Locks the current function of the SHUTTLE WHEEL so it can be released (page 7)

CHANNEL SELECTION BUTTONS
Used to display individual channels in live display and playback (page 6 & page 7)
Also used to enter numeric passwords for the various login screens



USB port
Supports a wide variety of USB memory stick for archive, system setting backup and firmware upgrade.
An additional USB port is also provided on the rear panel

MENU
Displays the setup menus (page 12)

SEARCH
Displays the search menu (page 7)

SCR MODE
Selects various display modes in live display and playback (page 6 & page 7)

PTZ / FOCUS
Selects PTZ mode in live display (page 11)

CURSOR KEYS, ENTER and RETURN buttons, and PLAYBACK CONTROLS
Used for navigating setup menus, search and archive screens.
Also used when the VXM4 is in PTZ mode (page 11), and to control playback speed and direction.

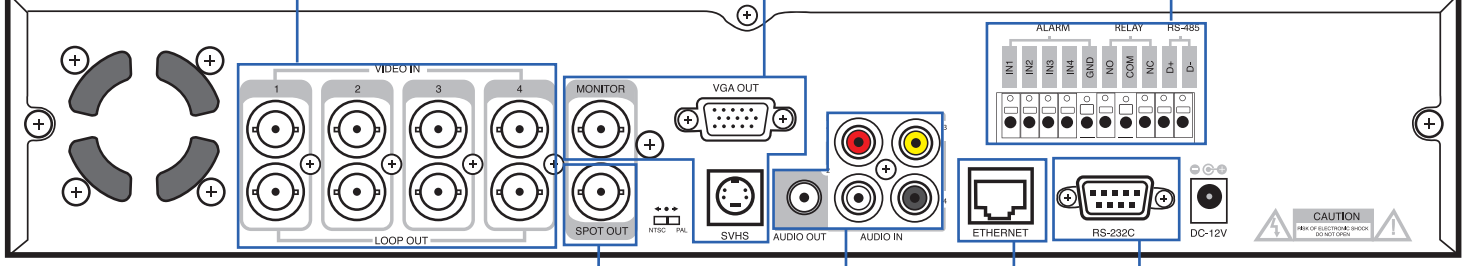
REAR PANEL DESCRIPTION

CAMERA INPUTS and LOOP OUTPUTS
Connect up to 4 camera inputs.

Loop outputs can be used for connection to other equipment

COMPOSITE, VGA AND S-VIDEO MAIN MONITOR CONNECTIONS
All outputs can be used at the same time if more than one main monitor connection is required

ALARM INPUTS, RELAY OUT and RS-485
See page 42 for full connection details



SPOT MONITOR OUTPUT

AUDIO INPUTS & OUTPUTS
Up to 4 audio inputs and one audio output can be connected as necessary

LAN
LAN connection to a router or internal network

SERIAL PORT
SERIAL port for connecting external RS-232 devices

Note:
A VXM4-RS232CONV must be used

GETTING STARTED

PLEASE NOTE: ALL NECESSARY CONNECTIONS MUST BE MADE BEFORE APPLYING POWER TO THE VXM4! THE VXM4 IS PRE-CONFIGURED WITH THE FOLLOWING SETTINGS:

25FPS continuous recording rate per channel at SIF (352 x 288) resolution and highest image quality.

- Time and date set to correct local time
- Audio inputs 1-4 assigned to video channels 1-4 respectively
- Telemetry devices set to PELCO-D, 2400 Baud
- Based on average image recording, the above settings will provide around 7 days recording on a 250GB drive before the footage starts to be overwritten.

CONNECT AND SWITCH ON

- Connect up to 4 **CAMERA INPUTS** as necessary. The VXM4 also has **LOOP OUTPUTS** so that any signals can be fed to other equipment if required. Termination is automatically set by the VXM4 depending on connection type
- Connect one or more monitors to the VXM4 using the **COMPOSITE, VGA or S-VIDEO** connections
- Connect power to the VXM4. The VXM4 checks for proper power connection and emits two beeps. Press any button on the front panel of the VXM4 to begin operation.

The VXM4 startup screen detects and checks the status of hard drives and the CDRW / DVR-RW drive

After startup diagnostics are complete, the operator must logon to the system. The default user name is 'ADMIN'. Using the **CHANNEL SELECTION** buttons, key in the default password of '1234' and press the **ENTER** button

The VXM4 begins normal operation and shows the default display of all 4 channels. The status bar at the bottom of the screen shows current time and date and percentage of hard drive used.

A title for each channel is shown

The red square and the letter 'C' in the top right of each channel display shows that the channel is recording in continuous/schedule mode.

'If audio recording is enabled, an audio icon showing 1,2,3 or 4 is displayed'.

CONFIGURING THE LIVE DISPLAY

MULTI SCREEN MODE

3 different display modes are supported by the 4 channel VXM4.
By repeatedly pressing the **SCR MODE** button, the operator can choose between single screen, quad screen and basic sequence.

All the display modes are static with the exception of the sequence mode. In this mode, the sequence symbol ( ) is displayed and each channel is shown in full screen for a set period of time (default 3 seconds) before switching to the next channel. The sequence runs indefinitely until a different display mode is chosen

CHOOSING CHANNELS

To view a particular channel in full screen, press the corresponding **CHANNEL SELECTION** button.

Pressing the same **CHANNEL SELECTION** button again will switch the display back to the last selected multi screen mode.

If audio recording is enabled for a selected channel, the chosen audio source is automatically played when that channel is viewed in full screen.

SEARCH

To search for a particular section of recorded footage, press the **SEARCH** button.
To protect unauthorised viewing of footage, only ADMIN and MANAGER user levels can playback footage.

To login as ADMIN, enter the default password of 1234 and press **ENTER**

The VXM4 uses a calendar and timeline search method for quick access to recorded footage.
The calendar displayed at the top shows the current month. Days highlighted in green have recorded footage.

The timeline at the bottom shows a 24 hour status of all channels for the selected day. Light blue areas show recorded footage.

Press **ENTER** to select the calendar and use the **CURSOR KEYS** to move the purple square to the required day. As different days are selected, the timeline display also changes to show recorded footage on that day.

Press **ENTER** to choose the day and move to the timeline.

Use the **CURSOR KEYS** to move the timeline cursor left or right to select the time segment required. Each movement of the timeline cursor increases or decreases the time by 15 minutes. The currently selected time is displayed above the calendar.

Press **ENTER** to begin playback from the selected time.

The default playback mode is quad screen display. By pressing **SCR MODE** or using the **CHANNEL SELECTION** buttons, it is possible to display single screen or switch to sequence mode in a similar way to the live display mode. When viewing playback in single screen mode, any associated audio recorded with that channel can be heard.

During playback, turning the **SHUTTLE WHEEL** steadily clockwise increases the playback speed by up to 64 times. Turning steadily anticlockwise will reverse play by up to 64 times. When the **SHUTTLE WHEEL** is released, playback is paused.

If the **HOLD** button is pressed and released during **SHUTTLE WHEEL** operation, the last shuttle function is held, even if the wheel is released
When playback is paused, the **JOG RING** can be used to accurately move the footage forward or backwards, frame by frame.

Playback speed and direction can also be controlled by using the **CURSOR KEYS** and **PLAYBACK CONTROLS.**

To exit playback mode and return to the search screen to choose another time and date, press **RETURN**.

To exit the search screen and go back to the last selected live view, repeatedly press **RETURN**.

INSTANT PLAYBACK

For quick review of recent footage, this feature allows the operator to bypass the search screen and playback footage beginning five minutes earlier.

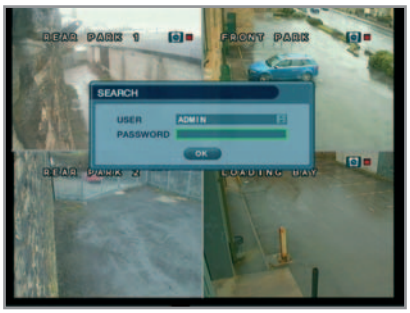
To use instant playback, press the **FORWARD PLAY** button, type the ADMIN password '1234' and press the **ENTER** button

Playback begins from 5 minutes earlier.

During instant playback, the **SHUTTLE WHEEL, JOG RING** and playback buttons can be used as normal.

To stop playback and return to live view mode, press the **RETURN** button.

EVENT SEARCH



The VXM4 event log stores events such as motion and alarm activated recording, video loss etc.

To search for an event and playback the recorded footage, press the **SEARCH** button and log in as ADMIN with the default password of 1234.

To display the event log screen, press the down **CURSOR KEY** to select SEARCH BY EVENT and press **ENTER**. Various filters can be used to limit the number of events displayed. Using the **CURSOR KEYS** and **ENTER** button, select the FROM and TO date / time and the events and channels required.

EVENT SEARCH continued

Highlight START and press **ENTER** to display the event log for the criteria selected.

To playback footage for a particular event, select the event from the list using the **CURSOR KEYS** and press **ENTER**

Playback resumes from the moment the selected event occurred and continues until stopped by the operator.

During event search playback, the **SHUTTLE WHEEL, JOG RING** and playback buttons can be used as normal.

To stop playback and return to live view mode, repeatedly press **RETURN**

Note: The event log search contains the following selectable entries:

- **ALARM: When ticked, all alarm input events are displayed for the chosen date range**
- **TIMER: When ticked, scheduled recording operations are displayed for the chosen date range**
- **MOTION: When ticked, all motion detection events are displayed for the chosen date range**
- **SYSTEM: When ticked, all other events (Video loss, remote connection etc.) are displayed for the chosen date range**

ARCHIVING

To archive recorded footage to USB memory stick or CD, press the **MENU** button.
To protect unauthorised viewing and distribution of footage, only the ADMIN user level can archive footage.

To login as ADMIN, enter the default password of 1234 and press **ENTER**

Use the **CURSOR KEYS** to select archiving and press **ENTER**

Please note: If using a USB memory stick, it must be inserted before selecting the archiving menu

The Archiving screen allows the operator to choose exactly what to backup and to where.
Use the **CURSOR KEYS** to navigate around the Archiving screen. To change any value or setting:
Press **ENTER** to change the green cursor to orange

Use the up and down **CURSOR KEYS** to change the value

Press **ENTER** to accept the value or **RETURN** to cancel

To change a tick box setting, press ENTER to toggle on or off

DEVICE: Choose between CDR or USB
START/END TIME: Start and end time to backup
MODE: 'Backup only' or 'Erase and backup'
VIDEO/AUDIO: Video and audio for any channel can be included or excluded from the backup
TITLE: The name of the archive set
EVENT: When selected, the event log for the particular archive time period is included.

Once all the desired archive options have been selected, highlight the START button and press **ENTER**.
The VXM4 displays a list showing the exact information to be archived and the total archive size.

If the ORIGINAL SIZE is larger than the available space on the backup media, the END TIME of the archive set is reduced accordingly. The MODIFIED SIZE is the final file size of the archive set.

Select OK and press **ENTER** to begin the archive process.

The footage is extracted to a temporary area on the hard drive.

Once extracted, the footage is copied to CD or USB.
Note that depending on the amount of footage selected for archive, the extracting and burning process may take some time, during which the VXM4 cannot be used. Normal recording is unaffected by the archive process.

For further details on archiving, see Appendix A on page 38

TELEMETRY CONTROL

Speed domes and other telemetry devices connected to the VXM4, can be fully controlled from the front panel.

In live display mode, press the **PTZ** button. To select a camera to control, use the **CHANNEL SELECTION** buttons.

Pan and tilt movement is controlled by the **CURSOR KEYS**, zoom is controlled by turning the **SHUTTLE WHEEL**.

Press **SCR MODE** or **MENU** buttons to decrease or increase the preset number.

Press **PAUSE** to program the preset, or **ENTER** to call an existing preset.

To control focus and iris, press PTZ again. The left and right **CURSOR KEYS** adjust focus, the up and down **CURSOR KEYS** adjust the iris.

Press **RETURN** to exit PTZ mode and return to live view.

SHUT DOWN

Only an operator with ADMIN rights can shut down the VXM4.
Press the **MENU** button, enter the default password '1234' and press **ENTER**.

Select shutdown and press **ENTER**. The ADMIN password must be entered again.

The VXM4 shuts down and emits two beeps to indicate that power can be safely removed.

CONFIGURING THE VXM4

Press the **SETUP** button to bring up the menu login screen.

Only operators with ADMIN rights can configure the VXM4. Enter the default password of '1234'

To navigate around any items in the setup menu, use the **CURSOR KEYS** and the **ENTER** and **RETURN** buttons. In general, the **ENTER** button is used to select and change a particular item and the **RETURN** button is used to cancel a change or exit from a particular setup screen

To setup all main system functions, highlight SYSTEM SETUP and press **ENTER**.

DISPLAY

To setup the various display options, highlight DISPLAY and press **ENTER**

DISPLAY: OSD

STATUS BAR: Turns the status bar at the bottom of the live display ON or OFF

CAMERA TITLE: Determines whether the camera title is displayed

EVENT ICON: Determines whether the VXM4 recording status is shown at the top right of each channel display window

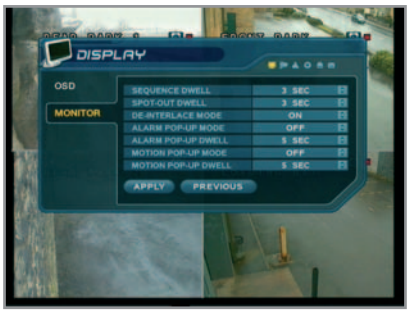
BORDER: Determines whether there is a border around each channel in multi screen display mode

BORDER COLOUR: If the border is ON, the operator can choose the colour

MENU TRANSPARENCY: During menu setup, the live view can be seen behind the menu screen. Changing this value determines whether the live view is more (higher value) or less (lower value) visible

To change any of these settings, highlight OSD and press **ENTER** to select. Use the **CURSOR KEYS** to navigate to the option required. Press **ENTER** to select the option (the cursor changes to orange) and use the **CURSOR KEYS** to change the setting. Press **ENTER** to save the setting or **RETURN** to cancel.

DISPLAY: MONITOR



SEQUENCE DWELL: The time that each screen is displayed in a sequence operation

SPOT-OUT DWELL: The time that each screen is displayed on the spot monitor outputs

DE-INTERLACE MODE: When recording any channels in D1 resolution (704 x 576) this should be set to ON to prevent judder during playback

ALARM POP-UP MODE: When set to ON, an alarm input will cause the associated channel to display full screen

ALARM POP-UP DWELL: Determines how long the full screen popup is displayed after an alarm input. If the alarm condition continues, the popup screen is displayed constantly

MOTION POP-UP MODE: When set to ON, motion detection will cause the associated channel to display full screen

MOTION POP-UP DWELL: Determines how long the full screen popup is displayed after motion detection. If motion continues, the popup screen is displayed constantly

To change any of these settings, highlight MONITOR and press **ENTER** to select. Use the **CURSOR KEYS** to navigate to the option required. Press **ENTER** to select the option (the cursor changes to orange) and use the **CURSOR KEYS** to change the setting. Press **ENTER** to save the setting or **RETURN** to cancel.

CAMERA

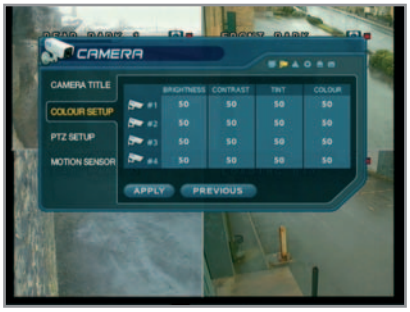
To setup the various camera options, highlight CAMERA and press **ENTER**

CAMERA: CAMERA TITLE

COVERT: When set to ON, the camera image is not displayed in live display but continues to be recorded.

TITLE: For each camera, a title of up to 11 characters can be set using the virtual keyboard

CAMERA: COLOUR SETUP



Brightness, contrast, tint and colour can be adjusted for each individual channel.
Highlight which channel to modify and press **ENTER**

The selected channel is displayed in full screen.

BRIGHTNESS, CONTRAST, TINT and COLOUR can be changed as necessary.

To modify a different channel, highlight CAMERA and choose the desired channel.

Press **RETURN** when all changes are complete

CAMERA: PTZ SETUP

ADDRESS: The unique ID of the PTZ device

PROTOCOL: The protocol of the PTZ device

BAUD RATE: The baud rate of the PTZ device

PTZ properties can also be adjusted for each channel by selecting the icon and pressing ENTER.

Note that some settings, such as AUTO FOCUS, may not be compatible with particular PTZ equipment. If this is the case, changing this value will have no effect on PTZ control

CAMERA: MOTION SENSOR

SENSITIVITY: Between 1 (Lowest) and 10 (Highest) and determines the degree of motion required before recording is activated.

AREA SETUP: Choosing this option allows the operator to define which areas of the image are monitored for motion detection.

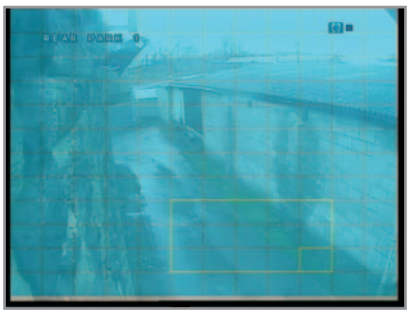
Light blue grid squares represent detection areas, grey grid squares are ignored. The area on the right shows that motion will be detected across the entire image

To quickly select or deselect the entire grid, press **RETURN** to bring up the motion menu.

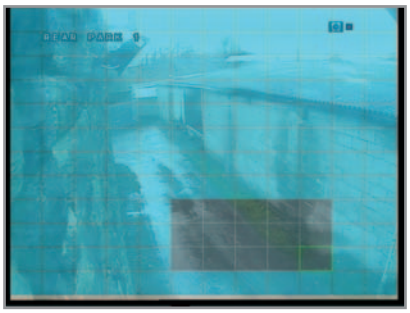
Highlight SELECT ALL or DESELECT ALL as appropriate and press **ENTER**

To select or deselect specific areas, press **ENTER** to bring up the green cursor square in the top left of the display.

Move the cursor using the **CURSOR KEYS** to the first corner of the area to be set and press **ENTER** – the cursor turns orange



Use the **CURSOR KEYS** to increase the size of the motion cursor as required.



Press **ENTER** to change from selected to deselected (or vice versa). Repeat the above sequence as necessary to mask off or include other areas of the image.

Once the detection area has been defined, press **RETURN** and choose SAVE & EXIT to save the area and return to the motion setup menu

Please note: a motion detection recording schedule must be defined in the RECORD MENU described on page 23

SOUND

To setup the various sound options, highlight SOUND and press **ENTER**

SOUND: AUDIO

LIVE AUDIO: When set to ON, the selected audio channel can be monitored on the AUDIO OUTPUT when the VXM4 is in quad screen mode.

AUDIO MONITORING CHANNEL: Specify which one of the 4 AUDIO INPUTS is routed to the AUDIO OUTPUT when the VXM4 is in quad screen mode

NETWORK AUDIO TX: When set to ON, live and playback audio is transmitted to a remote PC connection

NETWORK AUDIO RX: When set to ON, allows a remote PC connection to send audio back to the VXM4

SOUND: BUZZER

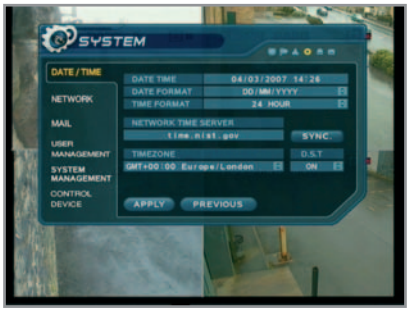
KEYPAD: When set to ON, each front panel button press is confirmed by a beep

IR REMOTE: When set to ON, each command received from the IR remote is confirmed by a beep

SYSTEM

To setup the various system options, highlight SYSTEM and press **ENTER**

SYSTEM: DATE/TIME



DATE TIME: Allows the operator to set or modify the current date & time

DATE FORMAT: Determines how the date is displayed

TIME FORMAT: Determines how the time is displayed

NETWORK TIME SERVER: If the VXM4 is connected to the Internet, the time and date can be accurately set by selecting SYNC and pressing **ENTER**

TIME ZONE: should be set according to the region that the VXM4 is used in.

D.S.T.: When set to ON, the VXM4 will automatically adjust the time by one hour on the relevant date in spring and autumn

SYSTEM: NETWORK

DDNS: When enabled, the VXM4 can be accessed through a Dynamic DNS server. Commonly used if a broadband connection does not have a static IP address

WEB SERVER: When enabled, allows remote connections using Internet Explorer or other web browsers.

NETWORK SPEED: Specifies the maximum bandwidth that the VXM4 can use during a remote connection.

WEB SERVER PORT: The port number that the VXM4 uses to support remote connection from Internet Explorer or other web browsers

CLIENT SERVICE PORT: The port number that the VXM4 uses to support remote connection from the client software

DDNS SERVER: If DDNS is enabled, the host DDNS server is specified here

Please note: If any network settings are modified, the VXM4 will need to be restarted for changes to take effect

Please note: for further information on network settings and remote connections please refer to page 27 & page 39

SYSTEM: MAIL

SERVER: The SMTP outbound email server that should be used to send email notifications

PORT: The outbound email port number

SECURITY: Set to OFF if the SERVER does not require a username and password to connect

USER: Enter a username to identify the VXM4 in email messages.

PASSWORD: If SECURITY is set to ON, enter the password here

Please note: A USER must be entered for the mail function to operate correctly. The username must not contain spaces.

SYSTEM: USER MANAGEMENT

By default, the VXM4 is configured with a user ID of ADMIN, belonging to the ADMIN group and with a password of 1234.

As well as the ability to add new users, existing user details can be modified

To modify user details, highlight the user with the green cursor and press **ENTER**

USER ID: Edit the user ID using the virtual keyboard
PASSWORD: Change the password using the virtual keyboard
NOTE: To delete the existing password use the ◀◀ key
GROUP: Users can belong to one of three groups: ADMIN, MANAGER or USER
E-MAIL: Enter the users email address if email notification is required
E-MAIL NOTIFICATION: Enable or disable email notifications for this particular user.

Please note: For security reasons, it is recommended that the ADMIN user password is changed as soon as possible

To add users, highlight ADD and press **ENTER**. The new user details can be added using the steps outlined above.

More Information about user management

Up to eight individual users can be created, and each user can belong to one of three user groups:

USER: Members of this group can only adjust live view settings. Playback and VXM4 setup is not available

MANAGER: Members of this group can adjust live view settings and playback recorded footage (including covert cameras)

ADMIN: Members of this group have full control over the VXM4 including setup

Please note: Any user can be deleted except the default ADMIN user

SYSTEM: SYSTEM MANAGEMENT

F/W version: Shows the firmware version of the VXM4

H/W version: Shows the hardware version of the VXM4

VIDEO SIGNAL TYPE: The video input type is determined by the PAL/NTSC switch on the rear panel.

DISK CAPACITY: The first value shows the amount of hard drive capacity used by recorded footage, the second value shows the total hard drive capacity installed.

IP ADDRESS: Shows either the manual IP address entered in NETWORK setup or the IP address assigned by a DHCP server if enabled

MAC ADDRESS: Shows the MAC (Media Access Control) address of the VXM4. It is unique – no other network device has this MAC address

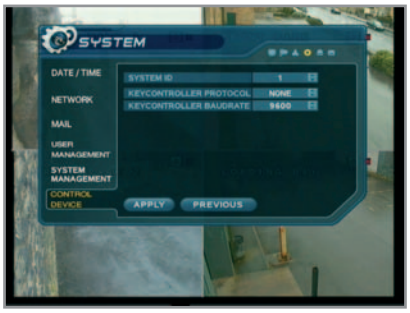
SYSTEM NAME: A system name of up to 10 characters can be defined. It is used so that notification emails can be identified.

F/W UPDATE: Firmware updates may be released periodically to enhance system performance and add extra features. The operator can upgrade the firmware using a USB memory stick

FACTORY DEFAULT: If settings have been changed which cause erratic behaviour, the factory default settings can be loaded

BACKUP USER DATA: System settings can be saved to a USB memory stick. The settings can be reloaded in case of accidental factory reset or can be transferred to another VXM4 if multiple units need to be installed with the same settings. All information is saved apart from network settings and system name.

SYSTEM: CONTROL DEVICE



The VXM4 can be remotely controlled using a Concept Pro VA-KBDPRO+ keyboard. Up to 254 VXM4s can be controlled using a single VA-KBDPRO+ PTZ controller.

SYSTEM ID: If more than one VXM4 is connected on the same RS485 bus, each one must have a unique ID.

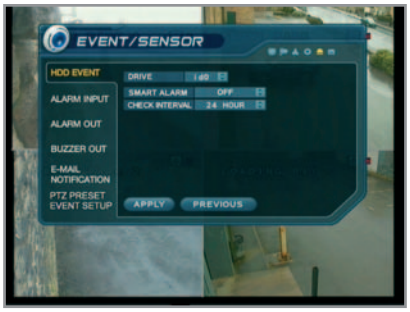
KEYCONTROLLER PROTOCOL: Must be set to VA-KBDPRO+.

KEYCONTROLLER BAUD RATE: Must be set to match the baud rate of the VA-KBDPRO+ PTZ controller.

EVENT / SENSOR

To setup the various event handling options, highlight EVENT/SENSOR and press **ENTER**

EVENT / SENSOR: HDD EVENT



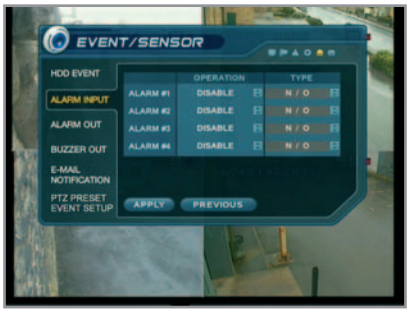
The VXM4 can monitor the hard drives and detect problems that may be developing.

DRIVE: Selects which hard drive to configure for monitoring.

SMART ALARM: Enables SMART disk monitoring.

CHECK INTERVAL: Can be adjusted as desired

EVENT / SENSOR: ALARM INPUT



Determines the behaviour of each of the 4 alarm inputs.

OPERATION: Alarm inputs can be enabled or disabled

TYPE: Alarm inputs can be set as normally open or normally closed

EVENT / SENSOR: ALARM OUT

Determines the behaviour and actions that will trigger the relay output.

Behaviour settings

OPERATION: The selected alarm output can be enabled or disabled

TYPE: Can be set to high (Relay turns on) or low (Relay turns off)

MODE: Can be either TRANSPARENT (the output is active only when the trigger criteria is present) or LATCHED (the output is active for a set period of time after a trigger)

DURATION: In LATCHED mode, the time that the alarm output remains active after it has been triggered

Action settings

ALARM: Determines whether alarm inputs will trigger the alarm output

VIDEO LOSS: Determines whether video loss on any of the selected channels will trigger the alarm output

MOTION: Determines whether motion detection on any of the selected channels will trigger the alarm output

HDD EVENT: Determines whether a hard drive event triggers the alarm output

Remember to select APPLY and press ENTER to save all settings before exiting these menus

EVENT / SENSOR: BUZZER OUT

Remember to select APPLY and press ENTER to save all settings before exiting these menus

Determines the behaviour and actions that will trigger the internal buzzer

Behaviour settings
OPERATION: The internal buzzer can be enabled or disabled

MODE: Can be either TRANSPARENT (the buzzer sounds only when the trigger criteria is present) or LATCHED (the buzzer sounds for a set period of time after the trigger)

DURATION: In LATCHED mode, the time that the buzzer sounds after it has been triggered

Action settings
ALARM: Determines whether alarm inputs will sound the buzzer

VIDEO LOSS: Determines whether video loss on any of the selected channels will sound the buzzer

MOTION: Determines whether motion detection on any of the selected channels will sound the buzzer

HDD EVENT: Determines whether a hard drive event sounds the buzzer

EVENT / SENSOR: EMAIL NOTIFICATION

Email settings must also be configured in MAIL and USER MANAGEMENT settings described on page 19

Determines the behaviour and actions that will send an email to a remote user.

Behaviour settings
NOTIFICATION: Email notification can be turned ON or OFF

Action settings
ALARM: Determines whether alarm inputs will send an email

VIDEO LOSS: Determines whether video loss on any of the selected channels will send an email

MOTION: Determines whether motion detection on any of the selected channels will send an email

HDD EVENT: Determines whether a hard drive event sends an email

EVENT / SENSOR: PTZ PRESET EVENT SETUP

Determines what event actions will send specified PTZ devices to specified presets.

CHANNEL: Select the channel that the desired PTZ device is connected to

OPERATION: Set to ENABLE to make the PTZ device respond to the specified actions

ALARM / PTZ PRESET: Tick the appropriate box and choose the desired preset number required. For example to send the PTZ device to preset 3 when alarm input 2 is detected, tick the CH 2 box and enter PTZ PRESET 3

VIDEO LOSS / PTZ PRESET: Tick the appropriate box and choose the desired preset number required. For example to send the PTZ device to preset 1 when video loss is detected on channel 4, tick the CH 4 box and enter PTZ PRESET 1

MOTION / PTZ PRESET: Tick the appropriate box and choose the desired preset number required. For example to send the PTZ device to preset 5 when motion detection is detected on channel 3, tick the CH 3 box and select PTZ PRESET 5

Notes: For an alarm input to call a preset, alarm recording must be enabled in the VXM4 record menu. For motion detection to call a preset, motion recording must be enabled in the VXM4 record menu.

DISK MANAGE

To manage the internal hard drives, highlight DISK MANAGE and press **ENTER**.

RECORD TIME LIMIT: In certain circumstances, it may be necessary to limit the amount of footage stored on the VXM4 (to comply with data protection laws for example).

Recording can be limited to 12 hours, 1 day, 2 days, 3 days, 1 week or one month. Once the VXM4 has this amount of footage stored, it will start to overwrite the earliest recorded footage.

OVERWRITE: When set ON, the VXM4 will start overwriting the earliest recorded footage once the hard drive becomes full. In this case, the percentage of hard drive used shown in live display will always be 99%. When set to OFF, the VXM4 will stop recording when the disk becomes full.

FORMAT: If necessary, all footage can be erased from the VXM4 using this option

Please note: When a RECORD TIME LIMIT is set, the OVERWRITE option cannot be changed

Please note: When RECORD TIME LIMIT is set, the percentage of HDD used shown in live display mode may never reach 99%.

For example, if the total HDD capacity of the VXM4 allows for a recording time of 4 days under normal operation, if the RECORD TIME LIMIT is set to 2 days, the percentage of HDD used will never exceed 50%

RECORD MENU

To setup the recording behaviour of the VXM4, highlight RECORD MENU and press **ENTER**.

RECORDING OPERATIONS

SCHEDULE MODE: Either DAILY (one schedule will apply to every day of the week) or WEEKLY (each day of the week has its own schedule)

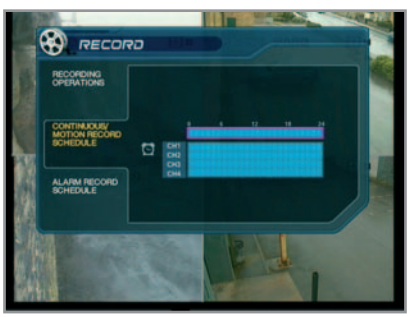
PRE EVENT RECORDING TIME: When the VXM4 is not in continuous recording mode, this setting determines the amount of footage that is always recorded before an event occurs (motion detection, alarm input etc.)

POST EVENT RECORDING TIME: When the VXM4 is not in continuous recording mode, this setting determines the amount of footage that is always recorded after an event occurs (motion detection, alarm input etc.)

INTENSIVE RECORDING MODE: When set to OFF, the VXM4 records as normal according to the CONTINUOUS / MOTION SETUP schedule. When set to ON, the VXM4 records according to the CONTINUOUS / MOTION SETUP schedule, but will automatically increase the recording frame rate or resolution to the highest amount possible on any channel that has motion detection.

RECORDING PRIORITY: When INTENSIVE RECORDING MODE is set to ON, determines whether the frame rate (FPS) or resolution (SIZE) is increased to the highest amount possible during motion detection

CONTINUOUS / MOTION RECORD SET-UP



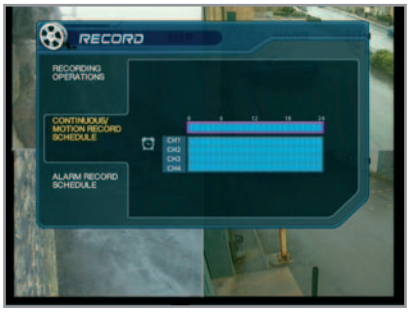
This setup screen allows the operator to configure scheduled and motion detection recording. There are 2 sections:

PARAMETER: Recording settings for each channel can be defined across a 24 hour period, in blocks (for example between 09:00 and 18:00) or for each individual hour. Note that when SCHEDULE MODE is set to WEEKLY, each day of the week can also be selected

SCHEDULE: This section determines at what times the VXM4 will record and whether it is continuous recording or motion detection.

When any PARAMETER settings are changed, the estimated recording time in days is displayed under the parameter table.

RECORDING SETTINGS



To change RECORDING settings, highlight CONTINUOUS/MOTION RECORD SCHEDULE and press **ENTER**.

The 24 hour time bar is highlighted in purple.

Press **ENTER** to display the green cursor

The green cursor shown represents one hour (in this case between 00:00 and 01:00). The table above the time bar shows the recording settings for this time period.

Example: To change the recording settings between 09:00 and 18:00

Use the **CURSOR KEYS** to move the green cursor to the 09:00 position and press **ENTER**. The cursor changes to orange to show the start position.

Use the **CURSOR KEYS** to stretch the orange cursor across to the 18:00 position

Press **ENTER**. Recording settings for the selected time period are displayed.

SIZE: Recording resolutions of 352x288, 704x288 or 704x576 can be selected for each channel

FPS: Frame rates between 1 and 25 can be set for each channel

QUALITY: Four different picture recording qualities can be set for each channel

AUDIO: If audio devices are connected to the VXM4, any audio channel can be assigned to any of the video channels

During playback, when a particular channel is selected in full screen, the assigned audio channel will be played back at the same time

Adjust values as desired, and select OK to finish and return to the parameter menu. Other time periods can be configured in the same manner.

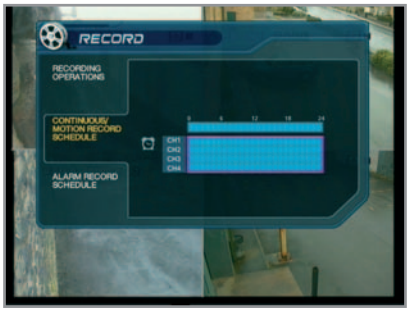
Remember that if SCHEDULE MODE is set to WEEKLY, recording settings need to be changed for each day as well as for each particular time

The default settings for all channels is 352 x 288, 25FPS, HIGHEST quality

Note: The VXM4 supports a maximum recording rate across all channels of 100 frames per second at 352x288 resolution. As settings are adjusted, the 'frames available' at bottom left displays the number of available frames still remaining and must always be zero or higher.

If, whilst changing recording settings, this figure becomes negative, recording resolutions and / or frame rates must be lowered to increase the 'frames available' value to zero or above.

SCHEDULE



To change SCHEDULE settings, highlight CONTINUOUS/MOTION RECORD SCHEDULE and press **ENTER**. Use the down **CURSOR KEY** to select the SCHEDULE box and press **ENTER**.

The schedule box is highlighted in purple

Press **ENTER** to display the green cursor.

Example: To set all channels to motion detection recording only between 18:00 and 00:00

Use the **CURSOR KEYS** to move the green cursor to the 18:00 position and press **ENTER**. The cursor changes to orange to show the start position.

Use the **CURSOR KEYS** to stretch the orange cursor across and down to select all channels between 18:00 and 00:00

Press **ENTER**, highlight MOTION and press **ENTER** again

The selected area now displays the symbol for motion recording (half light blue block)

Repeat the above procedure to set different recording schedules for individual channels and time periods

If intensive recording is defined, both TIMER and MOTION must be ticked in the SCHEDULE setup to for it to work. Mixed continuous and motion recording is displayed on the SCHEDULE screen as a half dark blue block

The schedule screen has 3 symbols to show the different recording modes.

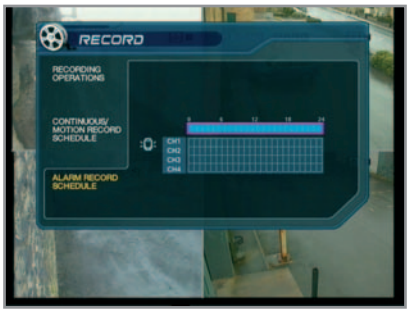
Dark blue blocks: No scheduled or motion recording

Light blue blocks: The VXM4 will record continuously

Half light blue block: The VXM4 will only record when motion is detected

Half dark blue block: The VXM4 is in intensive recording mode

ALARM SETUP



This setup screen allows the operator to configure alarm input activated recording

Please refer to continuous/motion record setup on page 23 for details on setting up PARAMETER and SCHEDULE

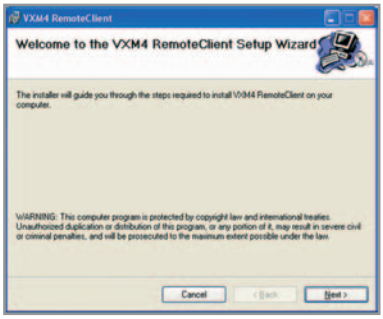
Alarm activated recording can be used in conjunction with continuous / motion recording. For example, the VXM4 could be configured to record continuously at a low frame rate (set in timer / motion setup) and then increase to a higher frame rate during an alarm input (set in alarm setup)

CONNECTING TO THE VXM4 REMOTELY

The VXM4 is supplied with software to allow remote connections either on a direct LAN connection or over the Internet.

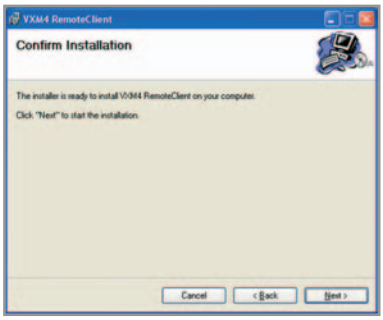
The remote client allows full live viewing of the VXM4 including telemetry control of PTZ cameras. In addition, playback, remote setup, audio talkback, local backup and remote alarm triggering can all be achieved.

INSTALL THE SOFTWARE

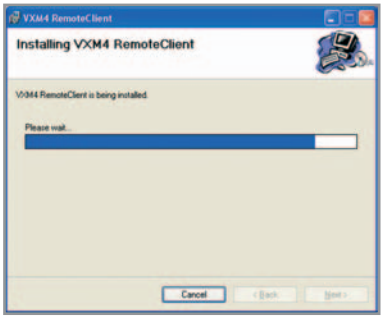


Insert the CD supplied with the VXM4 into your PC's CD-ROM drive. The install process will begin automatically and display the following screen.

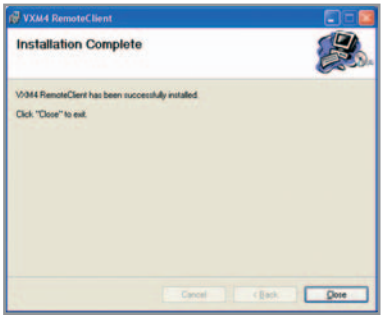
Click 'Next>' to continue



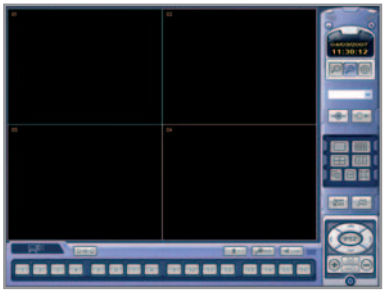
Click 'Next>' to begin installation



The VXM4 remote client software is installed



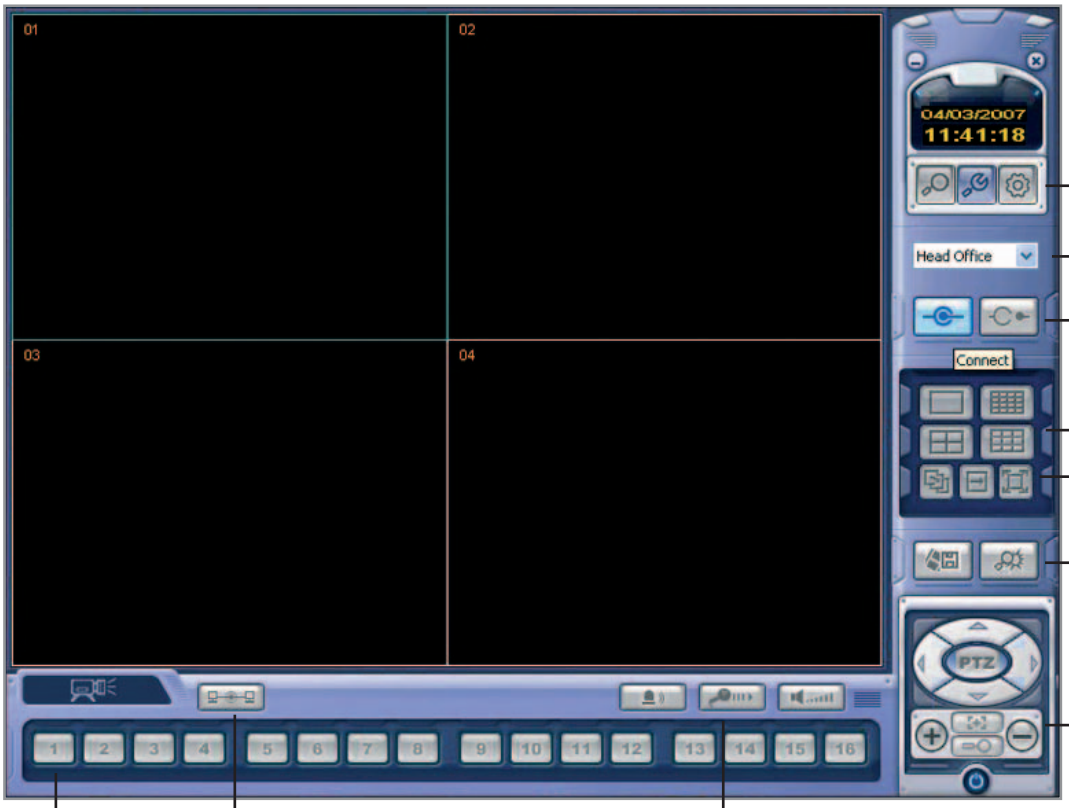
A final install screen is displayed confirming that installation is successful.
Two icons are created on the PC desktop. 'VXM4 RemoteClient' is the main software package. 'VXM4 BackupPlayer' is the software to view archive footage from the VXM4



To begin using the remote client software, double click the icon on the desktop or click:
Start – Programs –Concept Pro – VXM4 RemoteClient.

The main remote client window is displayed

REMOTE CLIENT CONTROLS



SEARCH button to access remote playback

SETUP button to configure VXM4 connections

VXM4 SETUP button to adjust VXM4 settings remotely

DROP DOWN LIST to select a VXM4 connection

CONNECT button

DISCONNECT button

DISPLAY buttons to choose 1,4,9 or 16 screen display

SEQUENCE button

MANUAL SWITCH button

FULL SCREEN button

SAVE TO AVI button

EVENT VIEWER button

TELEMETRY controls

CHANNEL SELECTION buttons

STATUS button

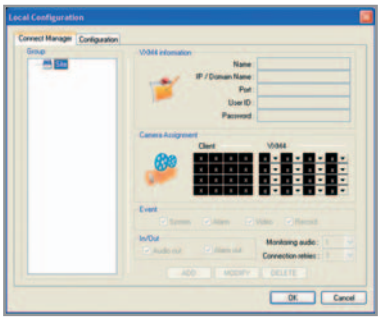
ALARM button

TALKBACK button

AUDIO button

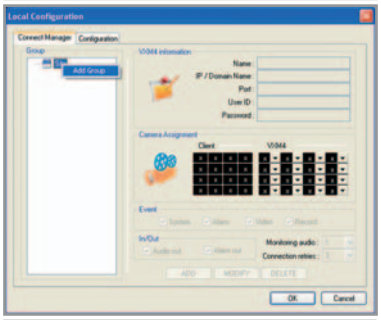
REMOTE CLIENT SETUP

CREATE A CONNECTION GROUP

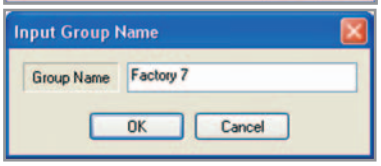


The VXM4 remote client software can be configured with any number of connection groups. Each connection group can consist of up to 4 VXM4s.

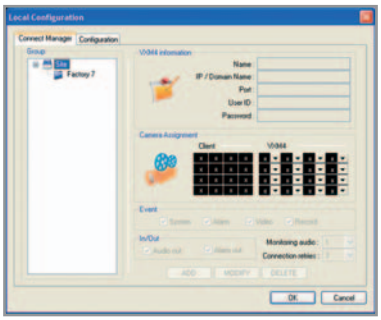
To create a connection group, click the **SETUP** button to display the Local configuration screen



In the 'Group' window on the left, right click 'Site' and choose 'Add Group'

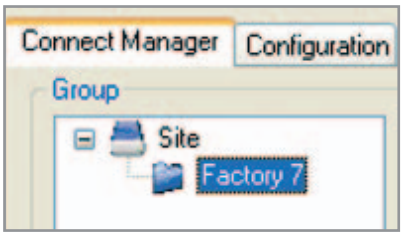


Enter a name to easily identify the connection group and click OK



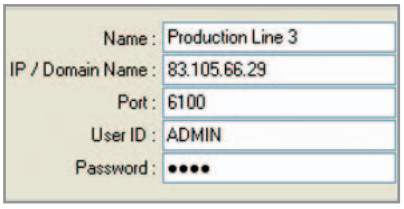
The new group is created

ENTER VXM4 DETAILS



Details for up to 4 VXM4s can be added to the 'Factory 7' group.

Click 'Factory 7' to highlight it and then enter the following information in the 'VXM4 Information' window:



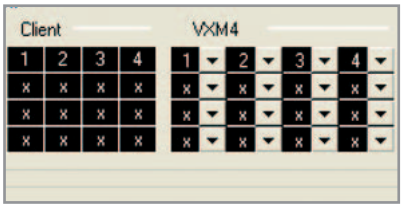
Name: Any name that will easily identify the VXM4

IP / Domain Name: The IP or DDNS address of the VXM4

Port: The network port of the VXM4

User ID: A valid user ID already setup on the VXM4 (NOTE: Case Sensitive)

Password: The password assigned to the user ID



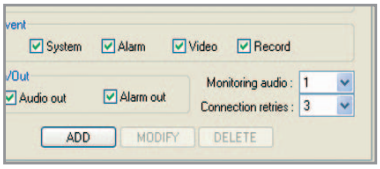
In the 'Camera Assignment' window, specific channels of the VXM4 can be allocated to the remote client display channels.

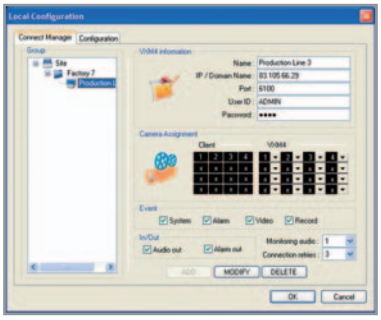
Using the drop down lists under VXM4, select which channels are displayed and in what position. To ignore certain channels, leave the drop down as 'x'

In this case, only channels 1-4 from the selected VXM4 will be displayed.

Note, only one instance of each channel can be selected.

Each connection group can display a total of 16 channels from one or more VXM4s. For example, a connection group could consist of one 16ch VXM4 and display all 16 channels. Or, it might consist of two 16 channel VXM4s and display 7 channels from one and 9 channels from another





To complete the details for the selected VXM4:

-Tick the event occurences that the VXM4 will send to the remote client system log

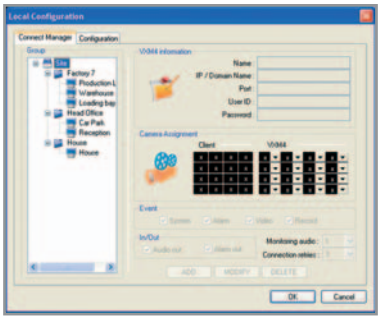
-Tick 'Audio out' to enable or disable the audio talkback function

-Tick 'Alarm out' to enable the remote alarm trigger function

-In 'Monitoring audio' choose which VXM4 audio input is transmitted to the remote client software during live display

-In 'Connection retries' choose the number of times the remote client will attempt to connect before giving an error

Finally, click ADD to save all the details.

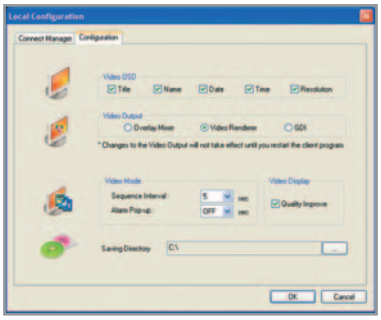


To add up to three more VXM4s to this group – simply repeat the steps from the previous page in 'Enter VXM4 details'

To create another connection group, repeat the steps from the previous page in 'Create a connection group'

During operation, only one group can be connected at once. For example, 'Factory 7' must be disconnected before connecting to 'Head Office'

ADDITIONAL CONFIGURATION



Click the 'Configuration' tab to setup various remote client program options.

Video OSD
Select or deselect the information that is displayed for each channel when a VXM4 is connected

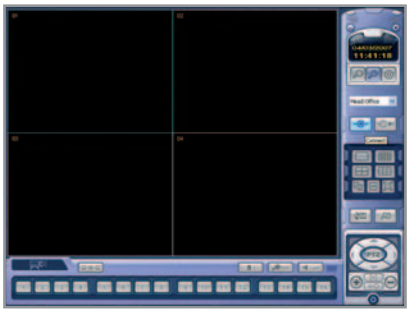
Video Output
If video images are not displayed after a successful connection is made, change the video output to 'GDI'. The remote client software must be restarted for the change to take effect

Video Mode
Define the sequence time between each channel when in sequence mode. Also, determines the full screen popup time when an alarm is triggered on the VXM4

Video Display
For best results, leave 'Quality improve' selected

Saving directory
Specify the location where AVI files and snapshots will be saved to the local PC

CONNECT TO A VXM4 GROUP



From the **DROP DOWN LIST** on the remote client main screen, choose the required connection and click **CONNECT**

After successful connection, the remote client displays the current live view from the VXM4.

For each channel, title, time / date and resolution are displayed.

LIVE DISPLAY MODES

Use the **DISPLAY** buttons to switch from single, quad, 9 split or 16 split display.

To run a sequence, select single screen mode and click the **SEQUENCE** button. Click **SEQUENCE** again to return to normal viewing mode.

The **MANUAL SWITCH** button shifts the positions of all channels by one place. For example, the following displays shows a 4 channel VXM4 in 16 screen mode.

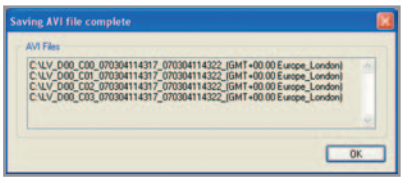
Clicking **MANUAL SWITCH** has moved all channels back by one position.

By clicking the **FULL SCREEN** button, the live display is shown in full screen without any of the remote client controls.

To return to normal viewing, double click anywhere on the screen.

To quickly select a particular channel, click the appropriate **CHANNEL SELECTION** button

SAVING TO AVI FILE



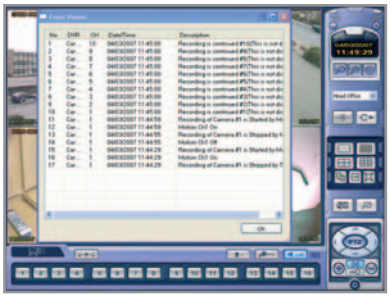
The operator can choose to record all channels currently being displayed on the live view directly to the local PC hard drive.

Click the **SAVE TO AVI** button to immediately start recording.

Click the stop button to end recording. The remote client displays a summary of the files created on the hard disk

For best results, local AVI files should be viewed using the VXM4 backup player software (Page 35).

VIEWING EVENTS



During a remote client session, any events detected on the VXM4 are sent to the remote client event log. To display this, click the **EVENT VIEWER** button

TELEMETRY CONTROL

The **TELEMETRY** controls allow remote control of any telemetry devices attached to the VXM4.

Click the appropriate channel display and use the on screen directional buttons to control pan and tilt movement. To control focus, click . To control zoom, click . Use the + and – buttons to adjust.

Additional telemetry controls can be accessed by clicking the PTZ button.

Telemetry presets can now be programmed and called remotely.

Example: To start pattern tour 1 running on a VHSD-870EXT speed dome, select preset 131 from the drop down list and click RUN.

Example: To program preset position 85, position the speed dome using the **TELEMETRY** controls, select preset 85 and click SET

If necessary pan & tilt speed speed can be adjusted by dragging the speed bar left or right.

Click PTZ again to return to the basic control buttons.

Telemetry control also allows remote setup of many telemetry devices. For example, to access the setup menu of the VHSD-870EXT speed dome, RUN preset 95 and then use the telemetry and focus + and – controls to navigate the speed dome menu.

Telemetry controls can also be displayed when the remote client is in full screen mode. To do this click the PTZ button and, using the mouse, drag the PTZ controls away from the remote client window. Then click the full screen icon. The PTZ controls are still displayed and can be moved around the display to suit the operator.

USING THE REMOTE CLIENT

AUDIO MONITORING

During a remote client session, the operator can monitor audio connected to the VXM4.

Click the **AUDIO** button to toggle live audio on or off

Suitable speakers must be connected to the PC for audio monitoring to function.

AUDIO TALKBACK

During a remote client session, the operator can 'talkback' to the VXM4. During talkback, audio is routed through the **AUDIO OUT** connector on the rear of the VXM4

To talkback, click and hold the **TALKBACK** button and speak normally in to the microphone

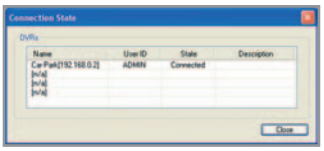
A suitable microphone must be connected to the PC for audio talkback to function.

ALARM TRIGGERING

Alarm outputs at the rear of the VXM4 can be triggered remotely by the operator.
On the 4 channel VXM4. Click any of the channel displays and click the **ALARM** button. 'A' is displayed on all 4 displays and the relay output on the VXM4 is activated. Click **ALARM** again to deactivate the relay.

On the 8 & 16 channel VXM4. Click the appropriate channel display and click the **ALARM** button. 'A' is displayed on the selected channel display and the corresponding alarm output on the VXM4 is activated. Click **ALARM** again to deactivate.

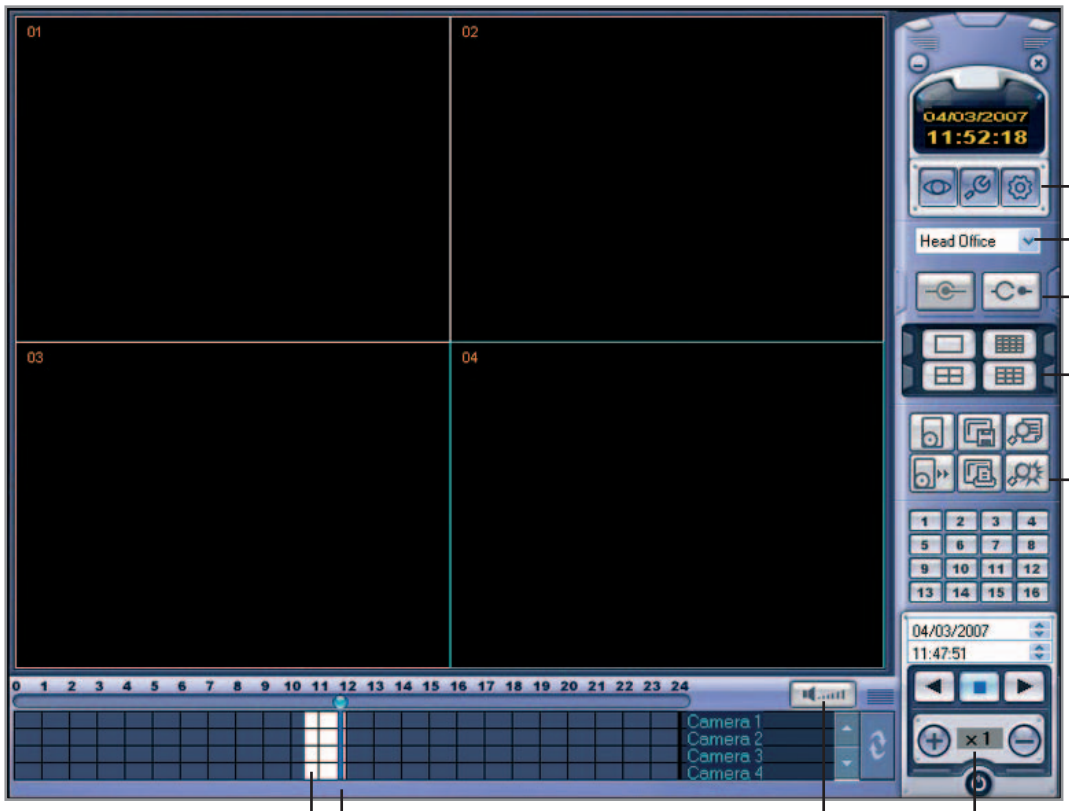
CONNECTION STATUS



During a remote client session, the operator can check the connection status of the entire group by clicking the **STATUS** button

REMOTE CLIENT PLAYBACK

REMOTE CLIENT PLAYBACK CONTROLS



LIVE button to switch to live view

SETUP button to configure VXM4 connections

VXM4 SETUP button to adjust VXM4 settings remotely

DROP DOWN LIST to select a VXM4 connection

CONNECT button

DISCONNECT button

DISPLAY buttons to choose 1,4,9 or 16 screen display

ARCHIVE button

SNAPSHOT button

EVENT SEARCH button

BACKUP PLAYER button

PRINT button

CURRENT EVENT LOG button

TIMELINE display

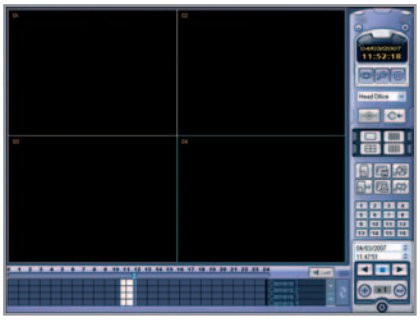
CURSOR

AUDIO control

PLAYBACK control

REMOTE CLIENT PLAYBACK CONTROLS

SEARCHING FOR THE FOOTAGE

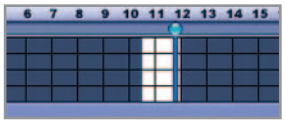


Click the **SEARCH** button in live display mode to switch to search mode.

The **TIMELINE** at the bottom of the display shows a graphical overview of recorded footage for a particular day. White blocks indicate footage for a particular time segment, whilst blue blocks indicate no footage.

Choose the required date by selecting and then adjusting the date value using the up and down arrows.

As different dates are selected, the **TIMELINE** changes to show the status of recorded footage for that particular date.



Use the mouse to drag the **CURSOR** to the required time.
The exact time selected is displayed under the date.

Click ▶ to begin playback from the selected date and time.

CONTROLLING PLAYBACK

During playback, use the **DISPLAY** buttons to switch from single, quad, 9 split or 16 split display.

To select reverse play, click ◀

Use + and – to increase or decrease playback speed.

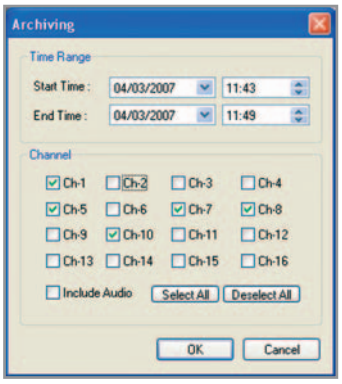
Click ■ to stop playback and choose another time / date if required

AUDIO MONITORING

During playback, click the **AUDIO** button to toggle audio on or off. By clicking a channel display window, audio associated with that channel can be heard.

REMOTE CLIENT PLAYBACK CONTROLS

ARCHIVING FOOTAGE



Pre-recorded footage on a VXM4 can be archived to the local PC hard disk.

Click the ARCHIVE button to show the archiving screen.

Choose start time, end time, which channels to archive and whether to include audio.

For convenience, choosing 'Select All' will highlight all available channels (including audio) for archiving.

Click OK to begin archiving data to the PC hard drive

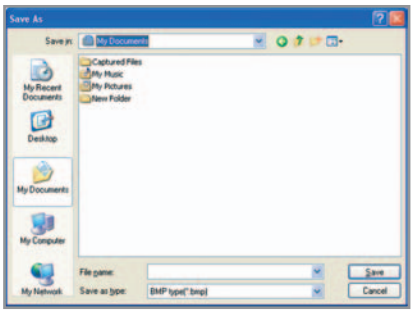
The remote client shows the current status of the archiving process.

BACKUP PLAYER

To view archives already created on the local PC hard drive, click the **BACKUP PLAYER** button. Click to choose which archive file to playback.

The controls under the display can be used to adjust playback direction and speed.

TAKING A SNAPSHOT

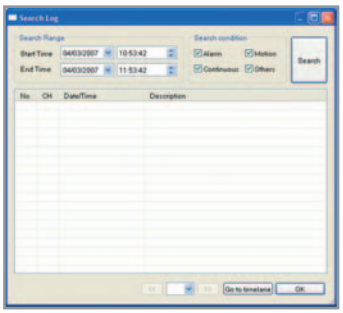


During playback, a still image can be save to the local PC hard disk by clicking the **SNAPSHOT** button.

Specify the file location, file name and choose BMP or JPG format. Click 'Save'.
The snapshot image is saved in the same style as the currently selected screen display, for example, quad screen, single screen etc.

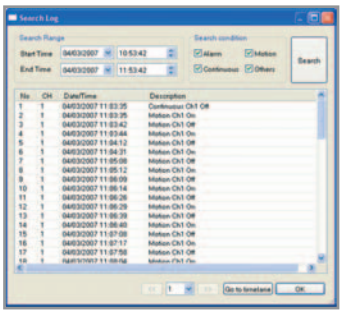
REMOTE CLIENT PLAYBACK CONTROLS

EVENT SEARCH



To search for an event and playback the recorded footage, press the **EVENT SEARCH** button.

Choose the ‘Start time’ and ‘End time’. Select which events to include in the search and click ‘Search’

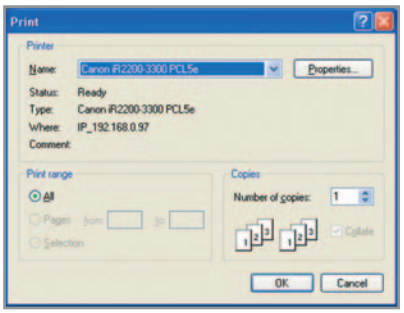


The event log for the selected time period is displayed.

Select an event, click ‘Go to timeline’ and then click OK

Click ▶ to begin playback from the selected date and time.

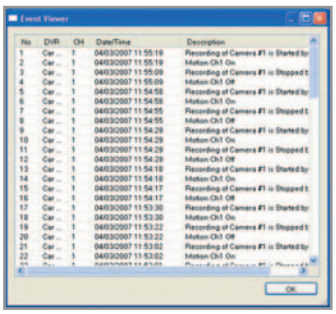
PRINT AN IMAGE



During playback, a still image can be printed on the local PC printer by clicking the **PRINT** button

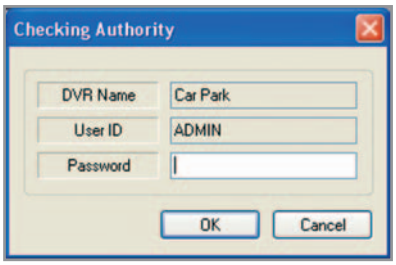
The printed image is in the same style as the currently selected screen display, for example, quad screen

VIEWING EVENTS



During playback, any live events detected on the VXM4 are sent to the remote client event log. To display this, click the **CURRENT EVENT LOG** button

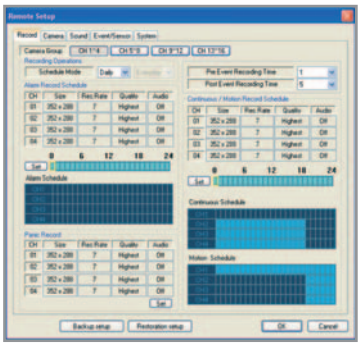
REMOTE VXM4 SETUP



Only the ADMIN user can configure a VXM4 remotely. With the exception of network settings and certain display options, any of the VXM4 settings can be changed.

ENTERING SETUP

Click the **SETUP** button, enter the correct password for the ADMIN user and click OK



The remote setup screen is displayed and the VXM4 settings can be changed as necessary.

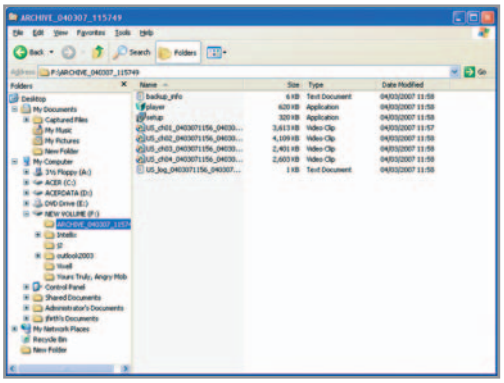
Click OK to save all changes and return to the main remote client screen. Any changes made will take effect immediately

LOADING AND SAVING

To backup a VXM4 setup to a local file, click ‘Backup setup’. A backup file is saved on the local PC.

To restore a VXM4 setup, click ‘Restoration setup’ and select the required file to upload from the browser window

APPENDIX A: THE ARCHIVE SET



After footage has been archived from a VXM4, it can be reviewed on a PC system.

Insert the backup CD or USB stick in the PC and view the contents using Windows Explorer.

The following files are included in the backup:

Backup_info: This file contains detailed information about the archive set. Double click to view it.

Player: This is the playback software necessary to view the archive files correctly.

US_ch01….: An AVI video file containing the archive footage for a single channel. Depending on the archive, there will be up to 16 AVI files listed.

US_log-….: The event log containing all events that occurred in the archive period. Double click to view it.

Setup: Installs the IMM4 codec. This is required if the user chooses to play back archive files using Windows Media Player.

BACKUP PLAYER

To view archives backed up from a VXM4, double click the player file

Click to choose which archive file to playback.

Playback of the archive file begins.

The controls under the display can be used to adjust playback direction and speed.

Note: VXM4 archive files can also be viewed using Windows Media player but no on screen information (such as time and date) is displayed.

For this reason, it is always recommended that 'player' is used to view archive files

Archive set file names

When a backup is created on the VXM4, a folder is first created on the backup device so that the operator can easily identify the archive set at a later stage.

For example the folder, F:\ARCHIVE_070205_120226 is an archive set that was created on 5th February 2007 at 12:02:26

Each individual archive file is also named for easy identification.

For example, US_ch01_0702051201_0702051202_00.AVI is a backup of channel 1 from 12:01 on 5th February 2007 to 12:02 on 5th February 2007

APPENDIX B: CONFIGURING A NETGEAR DG834 ROUTER FOR USE WITH THE VXM4

REQUIREMENTS

1. Netgear DG834 router

2. A Laptop or PC to configure the DG834

3. An Internet connection and all required login details (username and password provided by your ISP)

SETUP STEPS FOR INTERNET CONNECTION

1. The DG834 has a default IP address of 192.168.0.1, so configure your laptop or PC with an IP address of 192.168.0.2 and gateway of 192.168.0.1 and connect to the DG834 using the standard CAT-5 patch lead supplied with the router.

2. Open Internet Explorer and enter http://192.168.0.1 to connect to the router. When prompted, enter user name of 'admin' and password 'password'

3. If the DG834 has never been setup before, it will prompt whether you wish to use the setup wizard – do not do this.

4. Choose 'Basic Settings' from the menu on the left. Select yes for 'Does your internet connection require a login' and enter your username and password as provided by your ISP. Other information required on this screen can be left at defaults. Apply these settings and then verify that you now have internet access from the PC / Laptop

SETUP STEPS FOR CONNECTING A VXM4 LOCALLY

1. Configure the VXM4 (refer to page 18 for details) so that it has a unique IP address which is in the same range as the router and PC/laptop. For example, in this case choose 192.168.0.3. Set the gateway IP on the DVR to the router's IP address of 192.168.0.1. Note that the default port number is 6100.

2. Connect the VXM4 to the router using a standard CAT-5 patch lead and verify that it can be 'pinged' from the PC as follows
   a) Open a command prompt with the following sequence: START – RUN – type in 'CMD' – OK
   b) At the command prompt, type 'PING 192.168.0.3'. If you see 4 lines saying 'reply from 192.168.0.3: ……..' then the VXM4 is recognised on the local network. If not, work through the above steps again, but also check that the CAT-5 patch lead is OK.

3. At this point, the connection to the VXM4 can be tested locally. Install the remote agent software (page 27) and follow the steps to create a connection group, entering IP address, username and password for the VXM4 and port number as noted in step 1 above. The remote agent should successfully connect to the VXM4 allowing you to view images remotely on the PC/laptop

SETUP STEPS TO ALLOW REMOTE VIEWING OVER BROADBAND

BASIC PRINCIPLES

Imagine the Netgear DG834 is split in to two halves - one half is the private side which serves the local network. This 'half' of the router has its own IP address (typically 192.168.0.1) and other devices (PCs, laptops, VXM4 etc.) that are connected to it will all have a unique IP address of the form 192.168.0.XXX.

Because this is a private network, it cannot be accessed directly from the outside world.

The other imaginary half of the DG834G is the public side - it also has its own IP address which is allocated to you by your ISP and can either be static (it never changes) or dynamic (your ISP could change it at any time). Because this is a public network, in theory, anyone from the outside world who knows your public IP address can access the router and your private network. But, because the router has a security firewall built in, incoming traffic is severely limited to prevent this.

For this reason, you need to configure the DG834 so that incoming traffic intended for the VXM4 is correctly routed instead of being blocked - this is known as port forwarding.

You will notice on the VXM4 that in the network setup section, there is also a port number. This could technically be any value but you must avoid common Internet ports such as 80, 110, 25, 21 etc. In general, the default value on the VXM4 is acceptable.

In this case, the VXM4 default port value is 6100 so a rule needs creating on the DG834 that channels all traffic coming in on port 6100 to the VXM4

APPENDIX B: CONFIGURING A NETGEAR DG834 ROUTER FOR USE WITH THE VXM4

SETTING UP PORT FORWARDING

This section assumes that you have already established a successful connection locally. Logon to the DG834 and select 'Services' from the menu.

Click 'Add Custom Service' and enter the following values:

Name: VXM4 (or any other name of your choice)
Type: TCP
Start Port: 6100
Finish port: 6100

And click 'Apply'

Then, create a firewall rule as follows:
Select 'Firewall Rules' from the menu. Under the inbound services, click 'Add' and enter the following:

Service: VXM4(TCP:6100) – This is the service you created earlier

Action: Leave at 'ALLOW always'

Send to LAN server: 192.168.0.3 - This is the IP address of the VXM4

Wan Users and Log settings can be left unchanged.

And click 'apply' to add the new rule

Once the firewall rule is setup, anybody should be able to access the VXM4 from the outside world, as long as they are using the correct software.

To configure the software, the IP address is the public static IP address of your router and the port number in this case will be 6100. The username and password must match those set up on the VXM4

SETTING UP MULTIPLE VXM4s ON ONE ROUTER

The setup steps in this case are identical but you will need to create a separate service and firewall rule for each VXM4 connected. Note also that each VXM4 must have a unique port setting as well as a unique IP address.

Example – 2 VXM4s connected to a router

1st VXM4 settings
IP address: 192.168.0.3
Port: 6100
Gateway: 192.168.0.1

On the DG834, configure a service on port 6100 and a firewall rule to direct this service to 192.168.0.3

2nd VXM4 settings:
IP address: 192.168.0.4
Port: 6101
Gateway: 192.168.0.1

On the DG834, configure a service on port 6101 and a firewall rule to direct this service to 192.168.0.4

The remote client software can then be configured with one connection group containing two VXM4 connections to match the above and then both VXM4s can be accessed remotely at the same time.

Note: If connecting locally over a LAN, the unique 192.168.0.XXX IP address for each VXM4 has to be entered. If connecting over broadband, the same public IP address is entered for both VXM4s – port forwarding on the router takes care of the rest.

APPENDIX B: CONFIGURING A NETGEAR DG834 ROUTER FOR USE WITH THE VXM4

USING DDNS TO CONNECT

DDNS (Dynamic Domain Name Server) is generally used when your ISP provides you with a dynamic public IP address. The problem with a dynamic IP address, because it can change regularly, is that any remote users that need to connect to the VXM4 do not know what IP address to enter in the remote client!

Using DDNS solves this problem. When a VXM4 is correctly configured to use DDNS, it regularly interrogates the router and sends the current public IP address to a 3rd party database. The VXM4 also sends its MAC address, which is unique.

Before using DDNS, the VXM4 must be set up correctly by following the steps on page 39 and verifying that a local connection can be made.

In addition, the following must be configured in the VXM4 NETWORK setup menu (page 18)

DDNS - enabled

1st DNS server - must be the IP address of the ISP's 1st DNS server
2nd DNS server - must be the IP address of the ISP's 2nd DNS server
DDNS server - leave set as DDNS.DVRLINK.NET

Note: if the ISP's DNS servers are not known, they can be identified as follows:

A) Open a command prompt with the following sequence: START - RUN - type in 'CMD' - OK
B) At the command prompt, type 'IPCONFIG /ALL' and press ENTER. The ISP's DNS servers are listed at the bottom of the information screen. If only one server is listed, enter this in the VXM4 1st DNS server, and leave the 2nd DNS server as default

Finally, make a note of the VXM4's unique MAC address - this can be found in the SYSTEM MANAGEMENT section of the VXM4 setup (page 20).

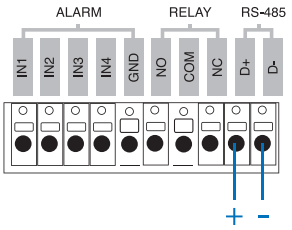
For example, if the MAC address is 00-11-5F-00-9A-33, the following should be entered instead of an IP address when configuring a VXM4 connection group:

00115f009a33.dvrlink.net

Note: the entry should be MAC address.dvrlink.net, not MAC address.ddns.dvrlink.net

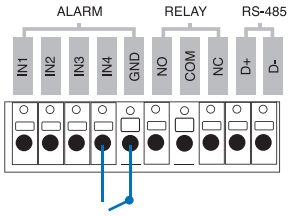
When the remote client initiates a connection, it interrogates dvrlink.net for the actual public IP address that corresponds to the MAC address. It then uses the resulting IP address to connect to the VXM4

APPENDIX C: CONNECTING EXTERNAL DEVICES



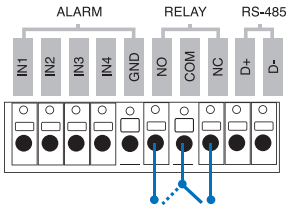
TELEMETRY AND VA-KBDPRO+

Connect RS485D+ to the '+' or 'A' terminal of any attached telemetry devices or VA-KBDPRO+ keyboard. Connect RS485D- to the '-' or 'B' terminals



ALARM INPUTS

Connect voltage free contacts from PIRs, beam break detectors etc. to the 'GND' terminal and 'INX' terminals of choice



RELAY OUTPUT

Connect the 'COM' terminal and 'NO' or 'NC' terminal of choice to activate low voltage sounders, strobes etc

APPENDIX D: SPECIFICATIONS

MODEL		VXM4-4
Operation	Genuine triplex	Simultaneous recording, playback, network live view, network playback, network remote setup. Frame rate unaffected.
Video in	Channels	4
	Connection	BNC, 1.0Vpp composite 75ohm unbalanced
	Loop through	BNC, 1.0Vpp composite 75ohm unbalanced, auto termination
Audio in	Channels	4
	Connection	RCA, line level unbalanced
Main displays	BNC	1.0Vpp composite 75ohm unbalanced
	VGA	15 pin D-SUB 1024 x 768 @ 60Hz
	S-Video	4 pin mini din Y/C
	Screen display modes	1, 4
	Sequence	Adjustable Dwell Time
	Digital zoom	N/A
Spot displays	Channels	1
	Connection	BNC, 1.0Vpp composite 75ohm unbalanced
	Display mode	Full screen sequence, adjustable dwell time
Audio out	Channels	1
	Connection	RCA, line level unbalanced
External alarm	Inputs	4, NO or NC common ground
	Outputs	1, SPDT relay
User interface	On screen display	GUI, alpha blending
	Control	Front panel, IR remote and / or VA-KBDPRO+ keyboard
Recording	Video CODEC	MPEG-4
	Resolution options for each channel	SIF (352 x 288), 2 SIF (704 x 288), D1 (704 x 576)
	Maximum total frame rate	100 FPS (SIF)
	Image quality	Highest, High, Standard, Low
	Pre-event recording	5 seconds max
	Recording modes	Schedule / motion detection / alarm
	Frame rate options for each channel	25 - 13 - 8 - 6 - 3 - 2 - 1
	Schedule Configurable recording time limits	Per channel, per hour, per day / week 12 hours, 1 day, 2 days, 3 days, 1 week, 1 month
	Audio	Audio inputs independently assigned to each channel
	Motion detection	16 x 16 selectable grid with 10 levels of sensitivity
	Covert recording	Yes, selectable by channel
	Camera title	11 characters (max)
Playback	Speed	Forward / reverse. 1x, 2x, 4x, 8x, 16x, 32x, 64x, 120x
	Control	Front panel buttons and Jog / Shuttle ring, mouse
	Search method	Calendar / timeline, event log, instant playback
	Split screen display modes	1,4
	Audio synchronization	Yes, any frame rate
Archiving	Storage	Internal DVD writer (CD-R or DVD-R media) USB stick or Network
	Format	Watermarked AVI
	Archive data	Independent channel selection (video / audio), backup log, event log
Time	Time zone	Worldwide, selectable
	DST	Yes
	Time synchronisation	Internet time server
PTZ	RS-485	Multi protocol, baud rate and speed control for each channel
System	Watchdog	Yes
	Abnormal shutdown detection	Yes, with system auto recovery
	HDD Error detection	Yes, SMART monitoring
	System data backup / restore	Yes, USB memory stick or via remote client
Network	Connection	RJ45, 10/100 Ethernet
	Simultaneous connections	4 (max)
	DHCP	Yes
	DDNS	Yes
	Two way network audio	Yes
	Bandwidth management	Yes
Remote client	Client software	Yes, included
	Remote configuration	Yes
	Remote PTZ control	Yes
	Email event notification	Yes
Storage	Maximum Capacity	Currently 1TB
	Storage	2x HDD maximum
	Recording options	Stop when full / overwrite
Event handling	Source	Alarm in, motion detection, video loss, HDD error
	Action	Record, alarm out, email notification, log, remote client popup, buzzer, full screen popup
Security	User levels	ADMIN, MANAGER, USER
	Key Lock	Yes, password protected
Physical	Dimensions	360mm(w) x 400mm(d) x 68mm (h)
	Weight	4.5kg (without HDD)

NOTES